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| 10/629,457 | 07/29/2003 | Henry W. Ruschmann | 1205.1.001 | 7314 |

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| EXAMINER |
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ANGEBRANNDT, MARTIN J

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| ART UNIT | PAPER NUMBER |
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1756

DATE MAILED: 09/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/629,457

Applicant(s)

RUSCHMANN, HENRY W.

Examiner

Martin J. Angebrannt

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004 and 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1756

1. The drawings are objected to under 37 CFR 1.84(h)(5) because Figure 1 show(s) modified forms of construction in the same view. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In figure 1, it appears that there is an attempt to show two different embodiments in a single figure. The first is the series 12,13,15,14,16,17,18,20,21,24 and 23 where the embossed holographic film does not bear a further coating [0015 of the prepub] and the second is the series 12,13,15,14,16,17,18,20,21,24,25,22,27,26 and 28, where a metallized coating is applied after the embossing [0016]. The figure appears to show a peeling step at rollers 21, which is misleading as these embodiments are alternatives, not preformed simultaneously in the manner illustrated in the figures and subjected to peeling.

2. The disclosure is objected to because of the following informalities: “high-resolution index” should read - - high-refractive index - - on page 5 at lines 15 and 17 and on page 2 at lines 10-11, “high refractive optical enhancement” should read - - high refractive index optical enhancement layer- - (see page 2, line 10).

Appropriate correction is required.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the claim implies that the adhesion coating is the embossed layer.

The specification at [0012] clearly indicates that the adhesion coating is further coated with an embossing coating [0014]. The embossing is not of the adhesion coating/treatment, but the subsequently applied layer. Claim 1 should indicate the application of an embossable coating and the embossing of that coating, not the adhesion coating. On the basis of the lack of the recitation of the embossable coating, the claims seems incomplete. In the case of the adhesion coating being a plasma treatment in a vacuum [0011], the adhesion “coating” is not a separate coating at all, but rather the already recited plasma treated film.

Congruent with the suggestion above, in claim 2, the application should indicate that the embossable coating is a thermo-set material and subjected to a step of thermosetting crosslinking. [0012]

Art Unit: 1756

Congruent with the suggestion above, in claim 3, the application should indicate that a high-**refractive** index coating is applied to the embossable coating (see page 2, lines 10-11)

In claim 5, the claims should specify that - - applying step for the adhesion coating is carried out from a water based solution and is UV cured - -

5. Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. This treatment is already described as occurring prior to the adhesion coating and furthermore, it does not result in a coating, but merely changes the character of the surface.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1756

8. Claim 1 is rejected under 35 U.S.C. 102(b) as being fully anticipated by Kay '615

Kay '615 teaches a polypropylene film which has been treated using a corona discharge for adhesion of the subsequently applied aluminum layer, which is then coated with an adhesive layer, and a release coated substrate (figure 1,6/3-19)

9. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antes et al. '471.

Antes et al. '471 describe a substrate of a polymeric film (1), a primer layer (2), a lacquer layer (3) and a reflective/dielectric layer (4). The diffraction structure is embossed into the thermoplastic lacquer layer using a heat die/matrix (3/63-4/17). The adhesion layer may be a replaced by a pretreatment of the substrate (1), such as by corona or plasma discharge. (3/16-25).

It would have been obvious to one skilled in the art to use the corona or plasma treated supports, in place of a primer layer based upon the disclosure to do so in column 3 as cited above.

10. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antes et al. '471, in view of Tokas et al. '510

Tokas et al. '510 teach that the formation of relief grating patterns in various materials including thermoplastic and thermosetting is known in the art. (2/23-35).

In addition to the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to modify the invention of Antes et al. '471 by using a thermosetting resin in place of the thermoplastic resins with a reasonable expectation of forming a useful diffractive article based upon the disclosure of equivalence by Tokas et al. '510.

Art Unit: 1756

11. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antes et al. '471, in view of Tokas et al. '510, Benoit et al. '231 and Steiner et al. '039.

Benoit et al. '231 teach that in forming optical articles, the use of corona, flame or plasma treatments alone or together with a primer. (11/39-44). The optical elements can include diffraction gratings (12/50-67)

Harada et al. '767 teach the use of radiation curable anchor (primer) coatings which are applied from aqueous solution and cured. (8/58-9/8 and examples)

It would have been obvious to modify the combination of Antes et al. '471 and Tokas et al. '510 set forth above, by adding a primer layer, such as the radiation curable layer taught by Harada et al. '767, in addition to corona or plasma treatment as taught by Benoit et al. '231 with a reasonable expectation of increasing the adhesion of the relief layer to the support as both the oxidation treatments (corona and plasma treatment) and the use of a primer layer are known to aid in adhesion.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schell et al. '646 (4/5-11), Kutsch et al. '769 [0020], Sawka et al. '675 (9/1-9) and Nebashi et al. '870 [20-24] discuss adhesion modification with respect to holographic materials.

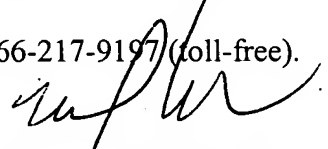
Takeuchi et al. '857 discusses holograms with various dielectrics to enhance the reflectivity at the relief interface

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebrannndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

Art Unit: 1756

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Martin J Angebranndt
Primary Examiner
Art Unit 1756

08/25/2005